pressions they contain : One writing from Boston says : " The best thing I ever got ; worth twice the money ; have you got others than those advertised for sale ?" Another writes from Buffalo, N. Y.: " I could not believe so many good things could be given for eight dollars." Another writes from Utica, N. Y.: " I have a great many architectural works, but the eleven packages you sent me knocks them all into a cocked hat. They are superb, and dirt cheap." One more writes from Iowa : " The eleven packages came to hand all right ; they are tremendous ; how can you afford to give so much for eight dollars ? I will show them to my friends, and I know some of them will send along their money to secure packages same as mine."

We could fill a column with expressions from our correspondents similar to those just given, but think the above will suffice to convince our readers that we are offering them something better than was ever obtainable for the same price.

A CORRESPONDENT who resides in Western New York writes us to ask our opinion about apprenticing his boys to a tradesman. He says : " I don't think it worth while to have my boys lose three or four years learning a trade when they can pick it up if they want to, of their own accord, after they have had two or three years' experience in some kind of mercantile business. Don't you think it a good idea to send them to a store first ?"

Our correspondent is a carpenter, and is pretty well-to-do, as things go. He has two boys, and thinks they are better than other folks's boys, or than he was when he was a boy for that matter, and we fear that any advice honestly given him would be thrown away. Therefore we suggest that he be guided by his own feelings in the matter, but we might add that it would perhaps be better for his young gentlemen not to learn a trade ; in working at it they might blacken their hands, wilt their shirt collars, and spoil their complexion by sweating. Yes, taking it all together, it would be better for these twin exquisites to hold their noses over a counter, part their hair like a woman, and learn to talk soft nonsense. It's more genteel, you know, to have smooth hands and wear good clothes, in the eyes of some people whose pride prevents them from making mortar or hewing wood, and whose poverty pinches and pains more than a tight boot on a tender corn. So, don't give your boys a trade ; it is better to be a genteel ass on a *salary* that wouldn't pay the washing bill of a South African negress, than to have comparative plenty and soiled hands. Don't allow the dear boys to learn a trade.

FRENCH fashions in house-furnishing, says *Harper's Bazar*, have remained popular throughout the Anglomania of the past few years, especially in the Louis Seize style, with its massive pieces in graceful curves, its luxurious upholstery, and decorations of marqueterie, gilt, and porcelain. The newest French furniture, however, revives the style of the First Empire, with severely simple shapes, spindle legs and square corners trimmed with mouldings of brass in long straight lines. The Empire style rivals the English in simplicity, but it may be made very elaborate by carving and by polished brass decorations. It finds its best expression in mahogany, which is again fashionable, but it is also shown in ebony and other woods. The substantial English furniture, without varnish or veneer, is still in favor, especially in the styles that have been popularized as Queen Anne, English, Gothic, etc. There is also a great deal of carving in Renaissance and Flemish designs, and the beautiful open fretwork is again revived.

F. S. HAZEN, of Springfield, Mass., is said to have refused an offer of $3000 for the mosaic cabinet which he made and placed in the loan exhibition. The cabinet contains 21,378 pieces of 300 kinds of wood, and was made with a knife. Many of our amateur readers have made creditable pieces of work during the past six months, and work that could be sold for nice sums if it was offered for sale. It is said the cabinet made by Mr. Hazen is a fine piece of work, and would put many professionals to shame. Can't some of our amateurs give a good report of themselves ?

THE Marquis of Lorne is having two beautiful cars built for him in Troy at a cost of $15,000. One is to be used as a sitting-room, the other for smoking. Their fittings are luxurious, and they are made to run on any road. They will bring the Marquis and the Princess to this country.

THE first six months of the WOOD-WORKER, bound in cloth, with gold title-page, will be sent to any address in the United States or Canada for sixty cents.

SEND six cents in postage stamps for " Hints on Estimating " to Charles D. Lakey, 176 Broadway, N. Y.

Lessons in Projection.

BY ROBERT RIDDELL, TEACHER OF THE ARTISAN CLASS IN THE HIGH SCHOOL, PHILADELPHIA.

Plate 62.

THIS drawing differs but very little from the one on the same subject shown last month. In this case the sides of the work incline or

flare at two different angles, the ground plan being a right angle. To describe proceed as follows : On any piece of board draw two parallel lines any distance apart, as A B C D. Construct the angles the sides are to make, as A N and B N. From N square down a line, making N R equal N A, and K N equal N B. From A and B square down the lines, cutting at D and C. Join K D ; this gives bevel 2 as the cut on face of narrow side. Now from R draw through C, and we have bevel 3 for cut on the wide side.

To find the form of a corner post to fit the angle of the flared sides, we proceed as follows : Extend the line A N to cut the line R C at P, from which square up a line cutting at L. From N draw through L, and we have the form of corner post, also bevel 4 for shoulder cuts of cross-rails of framing. If the sides are to make a butt joint instead of a mitred one, then bevel 4 is the direction of cuts on the ends. To understand this matter clearly, the student should practise in cutting cardboard, as the operation will give him more real and practical knowledge than it is possible for him to acquire by any other means.

Nothing can be more simple or more accurate than this method, and, as already mentioned, its correctness may be easily tested by first drawing the " spread-out," as shown on the upper portion of the Plate, on cardboard, and cutting through on the lines marked x x x x ; then fold on the lines marked o o o. Bring the points S and S together, and the mode of construction will readily be understood.

The flares may be any angle ; the result will always be the same.

------ •·• ------

Practical Carpentry.

COVERING OF SOLIDS.

To find the covering of a right cylinder :
PLATE 59.—Let A B C D (Fig. 1) be the seat of generating section. On A D describe the semicircle A 5 D, representing the vertical section of half the cylinder, and divide its circumference into any number of equal parts, 1 2 3 4 5, etc., and transfer those divisions to the lines A D and B C produced : then the parallelogram D C, G F will be the covering required.

To find the edge of the covering when it is oblique in regard to the sides of the cylinder :
Let A B C D (Fig. 2) be the seat of the generating section, the edge B C being oblique to the sides A B, D C : draw the semicircle A 5 D, and divide it into any number of parts, as before ; and through the divisions draw lines at right angles to A D, pro-

ducing them to meet B C in r s t u v, etc. Produce A D, and transfer to it the divisions of the circumference, 1 2 3 4 5 6, etc.; and through them draw indefinitely the lines 1 a, 2 b, 3 c, perpendicular to D F : to these lines transfer the lengths of the corresponding lines intercepted between A D and B C—that is, to 1 a transfer the length p z, to 2 b transfer o y, and so on, by drawing the lines z a, y b, x c, etc., parallel to A F, the intersections ; then shall D F C G be the development of the covering of A B C D.

To find the covering of a semi-cylindric surface contained between two parallel planes perpendicular to the generating section :
Let A B C D (Fig. 3) be the seat of the generating section : from A draw A G perpendicular to A B, and produce C D to meet it in E .—on A E describe the semicircle, and transfer its perimeter to E G, by dividing it into equal parts, and setting off corresponding divisions on E G. Through the divisions of the semicircle draw lines at right angles to A E, producing them to meet the lines A D and B C, in i k l m, etc. Through the divisions on E G draw lines perpendicular to it ; then through the intersections of the ordinates of the semicircle, with the line A D, draw the lines i a, k z, l y, etc., parallel to A G, and where these intersect the perpendiculars from E G, in the points a, z, y, x, w, v, u, etc., trace a curved line G D, and draw parallel to it the curved line H C ; then will D C, H G, be the development of the covering required.

To find the covering of a semi-cylindric surface bounded by two curved lines :
Figs. 4, 5, 6.—The construction to obtain the developments of these coverings is precisely similar to that described in Fig. 3, as will be evident on inspection.

To form the edge of a cylindric surface terminated by a curved line, so that when the envelope is applied to the surface its edge may coincide with a plane passing through three given points :
Let A E D (Figs. 7 and 8) be the base of the solid. Draw A B and D C perpendicular to A D, and make A B equal to the height of the point whose seat is A, and D C equal to the height of the point whose seat is D. On D C make H equal to the height of the point whose seat is E : join B C. Draw H L (Fig. 7) parallel to A D and H K (Fig. 8), cutting B C in L. Draw L a parallel to D C, cutting A D in a : number of equal parts in 1, 2, 3, 4, etc., and extend them on A D produced to F. Then join a E. Divide the arc of the base into any to find any point in the envelope—suppose that which corresponds to b on the seat. Draw b q parallel to a E, cutting A D at q ; draw also q n parallel to D C, cutting B C in n. Make q o equal to q n, and o is a point in the line required. Proceed in the same

PLATE 62.

Mitre on beveled edges.

CORNER POST

FLARE   FLARE   FLARE   FLARE

LESSONS IN PROJECTION BY ROBERT RIDDELL, ESQ.